

which it is distinguished as follows : pronotum widest behind middle ; larger size ; each elytron with a small, blunt tubercle on apical declivity, tarsi shorter.

I name this species after Dr. M. L. Roonwal, Director, Zoological Survey of India, in token of the high regard in which I hold him.

ZOOLOGICAL SURVEY OF INDIA,
34, CHITTARANJAN AVENUE,
CALCUTTA 12,
May 14, 1965.

KULDIP RAI
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28. A STUDY OF THE LARVAL STAGES OF *BRANCHINELLA BISWASI* K. K. TIWARI (CRUSTACEA : BRANCHIOPODA)

(With two plates)

MATERIAL

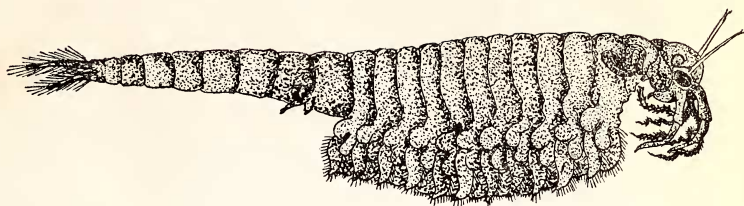
Adult male and female specimens of the shrimp *Branchinella biswasi* (Plate I) were netted from Sambhar Lake, Rajasthan, in the month of August 1962 after plentiful rain and were released in an empty cemented salt pan in which rain-water had collected. After a few days the females were examined and were found to have large ovisacs full of eggs. The females averaged 27 mm. in length and 6 mm. in breadth with the ovisac extending to the 4th abdominal segment. The size of the males recorded prior to their release in the pan was 20 mm. in length and 4 mm. in breadth at the cephalic region. The animals became senile and died after a short time leaving floating masses of light brown eggs.

As the breeding behaviour was not observed it was not possible to state whether the shrimps copulated in the pan and, if so, whether the eggs were fertilized or not. The eggs had shells and averaged 0.10 mm. in diameter.

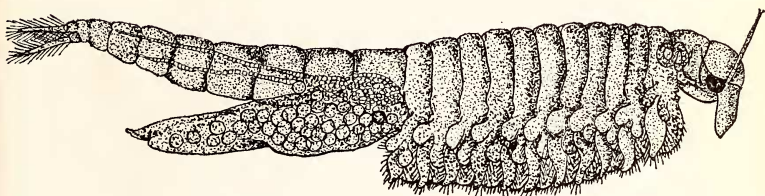
HATCHING or SEEDING

After a lapse of one year the eggs were sprinkled over the surface of clear fresh water in a glass trough and left undisturbed. The room temperature varied between 28° to 38° C. in twenty-four hours. The larvae were collected every twelve hours and examined.

The *Branchinella* undergo few changes during their larval development, due to their simple anamorphic growth by which the body and the appendages are completed and brought to adult condition through successive stages. The *Branchinella* are thus of interest as they show



MALE



FEMALE

Branchinella biswasi K. K. Tiwari—Adult

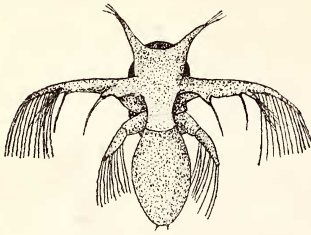


Fig. 2

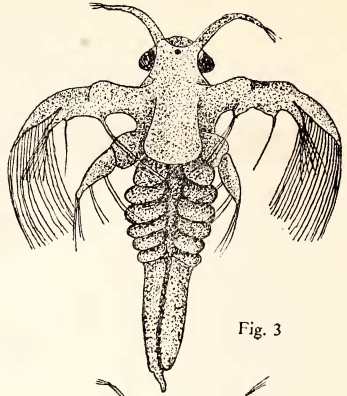


Fig. 3

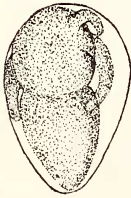


Fig. 1



Fig. 4

Branchinella biswasi K. K. Tiwari

Fig. 1. Unhatched prolarva 8 hours after seeding; Fig. 2. Newly hatched nauplius larva at 12 hours after seeding; Fig. 3. 24-hour old metanauplius larva; Fig. 4. Advanced metanauplius larva at 48 hours